

Stroke Rehabilitation Intensity Literature Overview

Rehabilitation Intensity is defined as:

- An individualized treatment plan involving a minimum 3 hours of direct task-specific therapy per patient per day by the core therapies, for at least 6 days a week.
- Face-to-face treatment provided by an occupational therapist (OT), physiotherapist (PT), speech-language pathologist (S-LP), occupational therapy assistant (OTA), physiotherapy assistant (PTA) and communicative disorders assistant (CDA). (Ontario Stroke Network, 2014)

Recently, the Ontario Stroke Network Rehabilitation Intensity (RI) Working Group was tasked with developing a comprehensive literature review that provides information and background for clinicians on why RI provision is important. The literature review will be used to support implementation of increasing RI for stroke patients and to identify future directions for research. The full description of this review and tables that list the research studies and its components can be found in the attached document entitled: Stroke Rehabilitation Intensity Literature Review. This resource can also be found on the [Ontario Stroke Network website](#).

Current available research supports the concept of providing higher intensity/longer duration of therapy to stroke patients:

- High intensity task oriented training on gait performance early after stroke showed a significant improvement in walking distance and gait speed (Outermans et al., 2010).
- More intense function-focused therapy was associated with greater than expected gains in self-care and mobility on the FIM™ for stroke patients (Bode et al., 2004).
- Higher amounts of therapy (e.g. 2 or more hours/day) in German and Swiss rehabilitation centres resulted in improved gross motor function and functional recovery according to the Barthel Index, Rivermead Motor Assessment, and NEADL, compared to UK centres that offered therapy 1 hour/day (DeWit et al., 2007).
- Intensity of OT was positively correlated with motor and cognitive gains on MMSE, FIM™ and NIHSS scores (Keren et al., 2004).
- Admission FIM™, length of stay (LOS) and OT and PT therapy time (hours) were significantly correlated with FIM™ gain (Foley et al., 2012).

Note: For a full list of references, refer to the Stroke Rehabilitation Intensity Literature Review.

From all the studies reviewed, 20 out of 31 studies included data or results that favoured increased RI provision. Many authors further positively commented on increasing RI in their discussion sections. Of note, some results were not statistically significant. In general, the studies did not provide clear information on the content of the therapy provided, but focused more on the amount of time or frequency of therapy provision. Future research in this area is needed to explore the impact of interprofessional approaches to RI, the content of therapy received by stroke patients, and relationships between RI, time in hospital, and functional improvement. Finally, a very important but often overlooked area in the current literature is the effect of RI on stroke patients' goal achievement, measures of participation, quality of life, mood and re-integration.